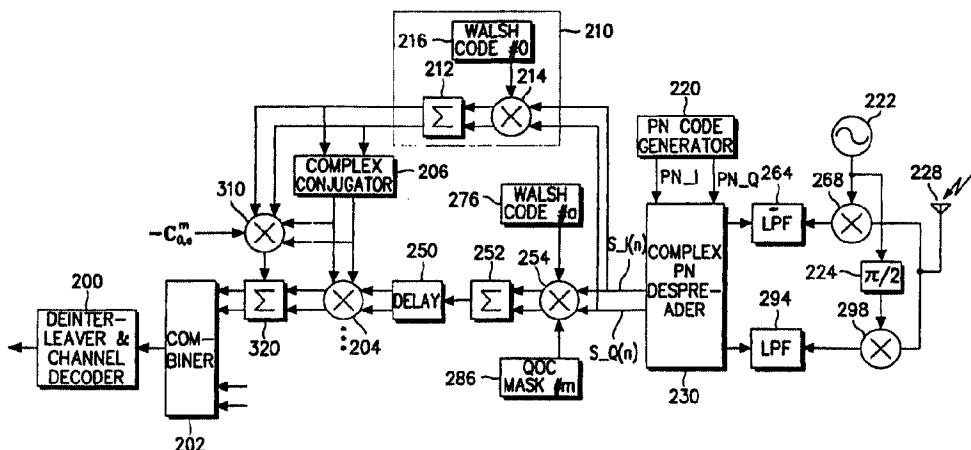




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(54) Title: DEVICE AND METHOD FOR CANCELLING CODE INTERFERENCE IN A CDMA COMMUNICATION SYSTEM



## (57) Abstract

A device and method for cancelling code interference in a receiver of a CDMA (Code Division Multiple Access) communication system simultaneously using orthogonal codes and quasi-orthogonal codes are provided. In a receiver according to an embodiment of the present invention, a channel estimator (210) produces a channel estimation value of a pilot channel signal spread by an orthogonal code (216) through despreading (214). A quasi-orthogonal channel receiver (222, 224, 228, 268, 298) receives a channel signal spread by a quasi-orthogonal code, despreads (220) the channel signal, demodulates (204) the despread channel signal by use of the channel estimation value, and provides an output. An interference estimator (310) estimates an interference value of the pilot channel signal with the channel signal spread by the quasi-orthogonal code by obtaining a correlation value between the orthogonal code corresponding to a pilot channel and the quasi-orthogonal code corresponding to a quasi-orthogonal channel. An interference canceller (320) cancels the estimated interference from the output of the quasi-orthogonal channel receiver.

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR 99/00364

## A. CLASSIFICATION OF SUBJECT MATTER

IPC<sup>7</sup>: H04J 13/02; H04B 15/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC<sup>7</sup>: H04B; H04J; H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IEEE Trans. on Comm., IEEE Comm. Letters

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CAVALLINI et al. 'Chip-Level Differential Encoding/Detection of Spread-Spectrum Signals for CDMA Radio Transmission over Fading Channels.' IEEE Transactions on Communications, Vol. 45, No. 4, April 1997, p. 456-463	1-15
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Date of the actual completion of the international search	Date of mailing of the international search report
14 January 2000 (14.01.2000)	01 February 2000 (01.02.00)
Name and mailing address of the ISA/AT <b>Austrian Patent Office</b> Kohlmarkt 8-10; A-1014 Vienna Facsimile No. 1/53424/200	Authorized officer  <b>Mesa-Pascasio</b>  Telephone No. 1/53424/327

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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